REMARKS

The Office Action dated February 28, 2007 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

As will be discussed below, it is also requested that all of claims 1-8 be found allowable as reciting patentable subject matter.

Claims 1-8 stand rejected and pending and under consideration, of which claim 1 is independent claim.

On page 3 of the Office Action, claims 1, 2, 3, 4, 5, 7 and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kuno (U. S. Patent No. 5,802,494 - hereinafter Kuno). The Office contended that Kuno describes all the recitations of independent claim 1 and related dependent claims 2, 3, 4, 5, 7 and 8. This rejection is traversed and reconsideration is requested.

Independent claim 1, upon which claims 2-8 are dependent, recites an image transmission system for a mobile robot. The system includes a camera for capturing an image as an image signal, human detecting means for detecting a human from the captured image, a power drive unit for moving the robot toward the detected human, face identifying means for identifying a position of a face of the detected human, face image cut out means for cutting out a face image from the captured image of the detected human, and image transmitting means for transmitting the cut out face image to an external terminal.

As will be discussed below, Kuno fails to disclose or suggest each and every feature of the presently pending claims.

Kuno generally describes video cameras (31a, 31b) and a microphone incorporated in the robot capable of taking an image of the patient and detects speech produced by the patient, as described in column 3, lines 41-45 of Kuno. The robot can analyze facial features of the patient to determine if the patient is facing toward or away from the cameras, as described in the upper-half of column 13 of Kuno. The robot can determine whether or not the patient is "making strange facial expressions" frequently, which can lead to a determination that the patient is in "abnormal condition and should, therefore, be monitored and examined by a physician."

In contrast with Kuno, in one of the embodiments of the present invention, a mobile robot detects a human from video information and approaches the detected human to then capture the image of a face of a detected human. As recited in claim 1, the present invention includes, in combination with other features, human detecting means for detecting a human from a captured image, a power drive unit for moving the robot toward the detected human, an a face image cut out means for cutting out a face image from the captured image of the detected human.

On the other hand, the robot (5) disclosed in Kuno is dedicated to the <u>monitoring</u> of a hospitalized patient. This robot monitors or observes the face of the patient in the bed and detects changes in the patient's facial features. As described in col. 28, lines 21-40 and Fig. 5, for example, of Kuno, the robot is remotely controlled by an operator in a

desired position to perform its tasks. There is no suggestion or motivation in Kuno for

human detecting means for detecting a human from a captured image, and a power drive

unit for moving the robot toward the detected human at least because the robot of Kuno is

positioned by an operator and it is not moved towards the human that has been detected.

Instead, once the operator has positioned the robot next to the patient, Kuno captures an

image from which the patient's head and facial features are extracted and monitored for

changes as further discussed below.

On page 3 of the Office Action, it is contended that Kuno describes Applicants'

claimed human detecting means by alleging that the description related to Fig. 16 is

directed to facial feature detection steps. However, Applicants respectfully assert that

the facial feature detection steps described in, e.g., col. 12, lines 43-67 related to Fig. 16

of Kuno does not teach or suggest Applicants' human detecting means, which enables the

power drive unit to move toward the detected human, as recited in claim 1. Instead,

Kuno's facial feature detection steps are utilized to detect abnormality in facial

expressions.

The Office Action cited column 9, lines 43-44 and Fig. 11 of Kuno, which

generally as describes the image of the subject's head extracted from the input image.

The Office Action contended that extracting the subject's head from the input image

teaches to Applicants' claimed feature of a face image cut out means for cutting out a

face image from the captured image of a detected human recited in Applicants' claim 1.

However, Applicants respectfully assert that there is no disclosure or suggestion in Kuno

of a face image cut out means for cutting out a face image from the captured image of the detected human as recited in Applicants' pending claims, and that "extracting" a subject's head as shown in Kuno does not teach or suggest Applicants' claimed recitation at least for the following reasons:

Col. 17, line 52 to col. 18, line 2, of Kuno shows that the operator can store into a host computer that data presenting the properties of the subject's head, including those of his or her facial features, and that the operator can also store in the host computer the properties of the clothes the subject wears. However, Kuno does not disclose or suggest at least an image cutting means for cutting out a face image from a captured image of a detected human, and an image transmitting means for transmitting the cut out face image to an external terminal. Moreover, cutting out a face image from a captured image and transmitting the cut out face image of the present invention are not performed with an operator's control.

In view of the arguments set forth above, Applicants respectfully assert that Kuno fails to disclose or suggest at least a human detecting means for detecting a human from a captured image, a power drive unit for moving the robot toward the detected human, and a face image cut out means for cutting out a face image from the captured image of the detected human. Therefore, the §102(b) of claims 1, 2, 3, 4, 5, 7 and 8 is improper and requested to be reconsidered and withdrawn.

On page 10 of Office Action, at page 6, claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kuno in view of Higaki et al. (U.S. Publication No.

2004/0028260 – hereinafter Higaki). The Office Action cited Higaki as describing an image database. In response, Applicants respectfully traverse the obviousness rejection at least for the reasons provided below.

As will be discussed below, Higaki and Kuno fail to disclose or suggest all of the recitations of claim 6 of the present invention.

Because the combination of Higaki and Kuno must teach, individually or combined, all the recitations of the base claim and any intervening claims of the dependent claims, the arguments presented above supporting the patentability of independent claim 1 over Kuno are incorporated herein.

Higaki is not a proper reference in these rejections, because it barred by 35 U.S.C. 103(c). Higaki is available as a reference only under 35 U.S.C. 102(e), if at all. Higaki has filing date of August 3, 2003 and published on February 12, 2004. In contrast, the present application was filed April 1, 2004. Further, both Higaki and the present application were subject to an obligation of assignment to the same entity, namely Honda Motor Corporation. Evidence of the present application's assignment to Honda Motor Corporation may be found in the assignment recorded April 1, 2004, at reel 015165 and frame 0245. Evidence of Higaki's assignment to Honda Giken Kogyo Kabushiki Kaisha may be seen on the cover page of Higaki. Honda Giken Kogyo Kabushiki Kaisha is part of Honda Motor Corporation.

As discussed above, the inventions were each assigned based on an obligation of assignment to Honda Motor Corporation. Accordingly, it is respectfully submitted that

Application No. 10/814,343

Higaki and the present application were both subject to an obligation of assignment to the same entity at the time of the invention, namely to Honda Motor Corporation. Therefore, 35 U.S.C. 103(c) excludes Higaki from being used for obviousness rejections under 35 U.S.C. 103(a).

As MPEP 706.02(l)(1) explains: "[S]ubject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention 'were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.'" It is, therefore, respectfully submitted that Higaki is inappropriate prior art in the above rejections that rely on it. Because the rejections cannot stand without Higaki, it is respectfully requested that the rejections be withdrawn.

For the reasons explained above, it is respectfully submitted that the rejection of all of claim 6 is moot because Higaki may not be used as prior art against the present application and because Kuno fails to teach or suggest all the recitations of claim 6 for the reasons set forth above. It is therefore respectfully requested that claim 6 be allowed, and that this application be passed to issue.

On page 12 of the Office Action, claim 1 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of co-pending Application No. 10/814,343 in view of Kuno. In response, Applicants respectfully request the provisional rejection be held in abeyance until this

application or the co-pending application is in condition for allowance and the claims are in final form.

In view of the above, Applicants respectfully submit that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicants further submit that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicants therefore respectfully request that each of claims 1-8 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicants respectfully petition for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged

to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Application No. 10/814,343